

**Montana Board of Oil and Gas Conservation
Environmental Assessment**

Operator: Kykuit Resources, LLC
Well Name/Number: Udelhoven #9-21-18
Location: N/2 NE Section 9 T21N R18E
County: Fergus, MT; **Field (or Wildcat)** Wildcat

Air Quality

(possible concerns)

Long drilling time: No, 3 to 4 days

Unusually deep drilling (high horsepower rig): No, small single drilling rig TD 2200'.

Possible H₂S gas production: No, sweet gas production.

In/near Class I air quality area: Not in a Class I air quality area.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: Small single derrick drilling rig to drill to 2200' TD.

Water Quality

(possible concerns)

Salt/oil based mud: No, freshwater and freshwater mud system to be used.

High water table: No, high water table expected.

Surface drainage leads to live water: Closest drainage is an unnamed ephemeral tributary drainage to Dog Creek, about 1/16 of a mile to the north of this location.

Water well contamination: None, closest water wells are about 1/4 of a mile to the southwest, 3/8 of a mile to the southwest and 1/2 of a mile to the west southwest from this location, depth of this wells are 220', 16' and 205'. Surface hole will be drilled with freshwater to 250'. Steel surface casing will be run and cemented to surface to protect ground waters.

Porous/permeable soils: No, sandy bentonitic soils.

Class I stream drainage: No, Class I stream drainages nearby.

Mitigation:

☐ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☐ Closed mud system

☐ Off-site disposal of solids/liquids (in approved facility)

☐ Other: _____

Comments: Adequate surface casing to be set, 250' to protect water wells.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: No, streams to be crossed, only ephemeral drainages.

High erosion potential: No, no cut up to 0.0' and small fill up to 2.4', required.

Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: No, small drillsite, 200' X 200'.

Damage to improvements: Slight, surface use is grassland. Adjacent to cultivated field.

Conflict with existing land use/values: Slight

Mitigation

☐ Avoid improvements (topographic tolerance)

☐ Exception location requested

☒ Stockpile topsoil

☐ Stream Crossing Permit (other agency review)

☒ Reclaim unused part of wellsite if productive

☐ Special construction methods to enhance reclamation

☐ Other _____

Comments: Will utilize existing county road, Kucera Road. Short access off existing county road to be build, about 1/4 of a mile of new access will be built into this location. Unlined earthen pits will be utilized for drilling. Top water will be recycled to the next location and solids will be allowed to dry in the pits. When pits are dry they will be filled in with subsoil and topsoil spread. No concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Closest residences are about 1/4 of a mile to the west of this wellsite.

Possibility of H2S: None, all formations are sweet gas producers in area of review.

Size of rig/length of drilling time: Small single derrick drilling rig/Short drilling time 3 to 4 days.

Mitigation:

☒ Proper BOP equipment

☐ Topographic sound barriers

☐ H2S contingency and/or evacuation plan

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: Adequate amount of surface casing and BOP equipment should mitigate any problems.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites 8 miles to the north is the Upper Missouri River Breaks National Monument boundary.

Creation of new access to wildlife habitat: None

Conflict with game range/refuge management: None

Threatened or endangered Species: Threatened or endangered species identified are the Pallid Sturgeon and Black-Footed Ferret. Species of concern is the Greater Sage Grouse.

Mitigation:

☐ Avoidance (topographic tolerance/exception)

☐ Other agency review (DFWP, federal agencies, DSL)

___ Screening/fencing of pits, drillsite

___ Other: _____

Comments: Private surface lands. Surface use is grassland adjacent to cultivated field. About 1320' east of a county gravel road. Sage Grouse Mitigation for Oil & Gas Operations on School Trust Lands (November 2007) requires a 1/4 mile buffer around active Leks and time restrictions apply. This well is more than 1/4 mile from the nearest Lek and will be drilled after June 15, 2010 and before March 1, 2011. No concerns.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites None identified

Mitigation

___ avoidance (topographic tolerance, location exception)

___ other agency review (SHPO, DSL, federal agencies)

___ Other: _____

Comments: Surface land is private. No concerns.

Social/Economic

(possible concerns)

___ Substantial effect on tax base

___ Create demand for new governmental services

___ Population increase or relocation

Comments: No, impact expected from the drilling of this well.

Remarks or Special Concerns for this site

No special concerns about this wellsite. This is a Cretaceous Eagle Formation test to be drilled to 2200' TD.

Summary: Evaluation of Impacts and Cumulative effects

No significant or long term impacts expected from the drilling of this well. Some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/ Steven Sasaki

(title:) Chief Field Inspector

Date: July 7, 2010

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website
(Name and Agency)
Fergus County water wells
(subject discussed)
May 27, 2010
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA
COUNTIES, Fergus County
(subject discussed)
June 22, 2010
(date)

Mr. Tom Stivers, Biologist, Montana FWP
(Name and Agency)
Greater Sage Grouse Leks in Fergus County, Montana
(subject discussed)
June 22, 2010
(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____